

Navigation Improvement Study
Unpublished Letter Report

Belfast Harbor

Belfast, Maine

August 1994



**US Army Corps
of Engineers**
New England Division

Habel



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149

REPLY TO
ATTENTION OF

August 10, 1994

Planning Directorate
Coastal Development Branch

Mr. Arlo L. Redman, III
City Manager
71 Church Street
Belfast, Maine 04915

Dear Mr. Redman:

I am writing concerning the city's request for a study of potential modifications to the existing Federal navigation project for Belfast Harbor.

At the initial site visit and public meeting held on May 24, 1994, the city and harbor interests proposed that maintenance dredging of the existing Federal navigation project be conducted and that improvements consisting of floating breakwaters for harbor protection and a channel extension upstream to the old Route 1 bridge be considered.

The issue of maintenance dredging for the existing project was referred to Mr. Boutilier of our Operations Directorate, Navigation Division. I understand that a representative of the city has been in contact with Mr. Boutilier. The City should continue to work with the Navigation Division as well as the Maine State Planning Office on the maintenance dredging issue.

At the meeting it was explained that in order for the Corps of Engineers to undertake a Reconnaissance study of the proposed improvements, sufficient economic justification must be evidenced. Little support for the floating breakwater plan was evidenced at the public meeting and no means of economic justification for such extensive structures was put forward. The concept of the channel extension received significant support at the meeting, but little evidence of any economic justification was offered beyond infrequent minor tidal delays for boats operating out of the cannery. We requested that any harbor users who believed they would benefit from such a channel extension send a statement describing their anticipated benefit. Since the meeting, no further information has been received from any harbor users and we understand that the city has decided to focus its efforts on maintenance dredging.

-2-

It has been determined that no economic justification exists on which the New England Division could base a decision to conduct a Reconnaissance study for improvements to the navigation project at Belfast Harbor. Therefore, no further Federal involvement in the proposed improvements is warranted at this time.

If you have any questions concerning this matter, please call me at (617) 647-8220 or Mr. Mark Habel at (617) 647-8550.

Sincerely,

William T. Scully, Deputy Division Engineer
for Earle C. Richardson
Colonel, Corps of Engineers
Division Engineer



10 June 1994
O'Leary/7235/ja

MEMORANDUM FOR: The record

12:14 PM - 10/10/94

SUBJECT: Trip report to Belfast, ME

1. Date of Meeting: 25 May 1994

2. Place: City Hall, Belfast, ME

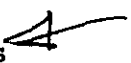
3. Principal Participants: Mark Habel, Al Lemire, and Ed O'Leary from the CENED and officials from the City of Belfast


4. Report: The purpose of the meeting was to enable NED to obtain information on navigation problems in Belfast Harbor. Stinson Canning Corporation boats are experiencing tidal delays getting to their dock. Some of the delays appear to be before the entrance channel and some between the main channel and their dock. The authorized channel is at -15 feet mean low water. Lobster fishermen were concerned with the availability of bait if Stinson were to cease operations in Belfast. They feel that tidal delays could impact this decision. An operator of a lobster pound felt that boats were delayed getting to his facility. After the meeting a lobsterman indicated to me that the pound operator receives most of his lobsters by truck. A representative of a local shortline railroad indicated that extending the main channel would facilitate the shipment of sand and gravel from a local pit. Apparently the state will assist the railroad with development of a spur from the pit to Stinson's dock.

5. Importance/Impact on NED: At the beginning of the meeting, Larry Gleeson of the Ad Hoc Harbor Committee, presented a plan featuring breakwaters to protect commercial and recreation vessels. However, there does not appear to be substantial damages to the fleet or shorefront facilities from wave action. Thus, given the cost of breakwater construction the probability of an economically viable project in this direction is very low. With regard to extending the channel there are some potential delays and damages to Stinson's and the barges owned by the railroad. Stinson vessels draw 14' loaded. The existing Federal Channel is at -15' and the channel depth between the Federal Channel and their dock is at -12'. Thus they play the tides to bring in their fishing boats. A spokesman for Stinson's indicated that they had about 6 delays last year. If we assume an average delay of 1 hour, a crew of 5, and \$12 an hour as the value of a labor hour, labor savings would be about \$360 per year. There would have to be multiple beneficiaries for extending the channel.

More information is needed to determine the extent of benefits for barging. The pit owners would need to be contacted to determine the economic life of their pit and their interest in shipping via barge as opposed to trucking. The State of Maine Department of Transportation would have to be contacted to determine the State's interest in building a spur to the harbor. We would need to know tonnages to be shipped via barge. Given the high cost of constructing railroad line and the availability of State funds, construction of a spur line seems unlikely. Thus there is a low probability of obtaining these transportation benefits.

The bait problem with lobstermen is not a major issue. If Stinson's were to cease operation dealers would appear to provide fishermen with their bait, possible at a higher cost. The provision of bait appears to be a by-product of their operation. Also there does not appear to be a strong connection between Stinson's navigation problems and the economic viability of their plant.

For further study, the Reconnaissance level of effort is estimated to be 6 weeks at a cost of \$15,000 for the Economics Appendix. 


Edmund O'Leary
Economist

cc:
Mr. O'Leary
Mr. Ring
Mr. Rubin
IAD File
Plng Dir File

MEMORANDUM FOR Chief, Plan Formulation Division

SUBJECT: Trip Report, Belfast Harbor, Maine

1. The undersigned, together with Mr., O'Leary (IAD) and Mr. Lemire (ED-CEB), travelled to Belfast for a meeting with city officials and harbor users on 24 May 1994. The meeting was attended by the city manager, mayor, the state senator and representative for Belfast, city council members, chairmen of the harbor committee and waterfront committee, sardine cannery manager (Stinson Seafood), Penobscot Bay Pilots and Maine Towboat representatives, city attorney, manager of the Belfast and Moosehead Lake Railroad, a lobster pound operator, several lobstermen and other interests. In all, more than 50 people (copy of attendance sheets attached). Local reporters and a Bangor TV film crew were also in attendance.
2. The city officials and the Railroad manager presented proposals for various harbor improvements as outline in the city's letter of 2 March 1994. Most users expressed an immediate need for maintenance dredging of the existing project (Copy of project map attached) which they assert has shoaled to the point where it is hindering access to harbor facilities. Beyond maintenance, the principal users, the towboat company, pilots, cannery and railroad, are all located upstream of the area accessed by the existing Federal channel. The Federal channel has an authorized depth of -15 feet and the natural channel above which leads to these facilities is said to have depths of only -12 feet. Vessels working out of these facilities are said to have drafts of 14 feet, and they would thus incur delays even with full maintenance of the Federal project downstream.
3. The cannery was the only facility which attempted at the meeting to make an estimate of delay costs. They own and crew their own vessels, 90-foot seiners which land sardines. The processing by-products of the cannery supply the bait source for local lobstermen. These boats make trips of several days and play the tides to reach the cannery berth. With use of the tides they still incur delays, but the number is minimal.
4. The Railroad has not carried freight in the past three years. It currently operates only as a passenger line carrying primarily tourists between Belfast Harbor and inland towns. The Railroad has joined with a Ferry/Charter boat service to begin seasonal rail/ferry excursions this month which connect Belfast with Bangor and Castine by passenger craft. In decades past lumber and stone products were carried. The Railroad currently has plans to build a spur line, with state financial assistance, to a newly reactivated gravel quarry upriver with the hope of using barges to ship the gravel out of Belfast Harbor from their landing immediately upstream of the cannery. They estimate that the quarry has sufficient deposits to operate for a 50-year period.
5. The pilots and towboat company indicated some delay problems in reaching their dock, but without maintenance of the existing channel could not indicate what if any problems may be attributable to any channel extension.

6. The local fishermen were concerned with the continued viability of the cannery, seeking to avoid the necessity of using a more expensive bait source which would require them to buy bait trucked in from another port (they mentioned Bath). How this could be translated into any project benefit if any is unclear.

7. Beyond dredging improvements, the city has proposed a scheme for floating breakwaters to increase harbor protection. Only the Railroad mentioned any possible benefit from such a scheme as they presently replace about 3 sections of track along the waterfront following storm damage about once every 3 years. None of the other participants seemed particularly interested in the breakwater proposal.

8. SUMMARY:

The Breakwater Plans: The city's breakwater scheme would entail a significant expense and appears to have few backers besides the city itself. We have studied similar proposals for Belfast 6 times since the 1870s with unfavorable results. The city has however, sent representatives of the harbor committee out to Washington to tour NPD's Friday Harbor project, and seem intent on having NED prepare a cost estimate for similar structures at Belfast. Mr. Lemire estimates that a Reconnaissance level cost estimate could be fairly easily prepared by applying the Friday harbor design to Belfast and updating the costs.

The Channel Extension Plan: There are a number of potential beneficiaries of such a scheme. However, besides general claims of delays and potential future waterfront transportation development, they were unable to present any definite figures as to potential benefits. The city's Harbor Committee, Railroad, Stinson Cannery and Maine Towboat Company requested time to consider the city's plan and assemble data on possible benefits for submittal to NED. We informed the city that we would make a decision on whether or not to go forward with a Reconnaissance study in 60 days and that any information they or other harbor interests could provide in support of such a study within that time would be considered.

9. RECOMMENDATION: The city and other users will be assembling and supplying NED with economic data in support of their proposal for channel extension. Before the end of July, after considering whatever data they have provided, we will decide whether to conduct a Reconnaissance study or not. Based on the present level of information, the breakwater schemes would not be considered further, but there may be a slim chance that a channel extension could be justified. We will await the city's input.

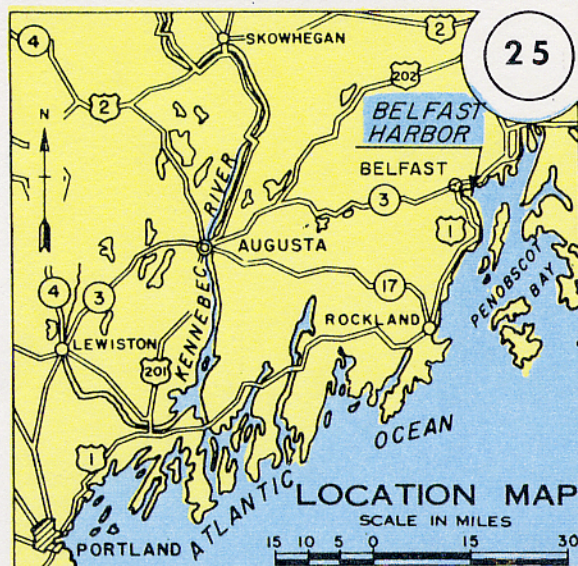
MARK L. HABEL
Study Manager

cc: Mr. Pronovost - 114N
Mr. Smith - 114S
Mr. Habel - 114S
Mr. O'Leary - 113N
CDB Files- 114S

BRIDGE CLEARANCES

ROUTE 1 BRIDGE
HOR. 136 FT.
VERT. 68 FT.

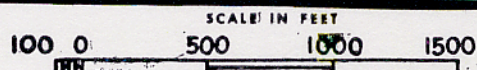
FOOT BRIDGE (FIXED)
HOR. 50 FT. MHW
VERT. 6.2 FT. MHW



NAVIGATION IMPROVEMENT STUDY

BELFAST HARBOR
BELFAST, MAINE

FIGURE 2
EXISTING FEDERAL PROJECT



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
WALTHAM, MASS.

NAVIGATION IMPROVEMENT STUDY

**BELFAST HARBOR
BELFAST, MAINE**

**APPENDIX A
PERTINENT CORRESPONDENCE**



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149

May 5, 1994

REPLY TO
ATTENTION OF

Planning Directorate
Coastal Development Branch

Honorable Olympia J. Snowe
House of Representatives
Washington, DC 20515-1902

Dear Ms. Snowe:

I am writing in response to your letter of April 5, 1994 concerning the request by the city of Belfast, Maine for assistance in navigation and harbor protection improvements for Belfast Harbor.

By letter dated March 2, 1994, the city requested that the New England Division study the potential for modifying the existing Federal navigation project for Belfast Harbor, with a view towards providing extensions to the dredged channel and anchorage areas as well as providing breakwater protection using floating structures. Members of my staff have arranged with the city to conduct an initial site visit on May 24, 1994. The principal purpose of that visit will be to determine what the city and the other users of the harbor, particularly commercial users, view as the potential economic benefits of the proposed improvements.

Following a preliminary assessment of the economic benefit of such improvements, a decision on whether or not to conduct a reconnaissance investigation would be made.

If you have any further questions, I can be reached at (617) 647-8220. Should your staff desire information on our study efforts, the study manager, Mr. Mark Habel of my Planning Directorate, can be reached at (617) 647-8550.

Sincerely,

A handwritten signature in black ink, reading "Brink P. Miller".

Brink P. Miller
Colonel, Corps of Engineers
Division Engineer

Copy Furnished:

Honorable Olympia J. Snowe
Representative in Congress
One Cumberland Place, Suite 306
Bangor, Maine 04401-5000



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149

April 18, 1994

Planning Directorate
Coastal Development Branch

Mr. Arlo L. Redman, III
City Manager
71 Church Street
Belfast, Maine 04915

Dear Mr. Redman:

I am writing in response to your letter of March 2, 1994 concerning the city's request for a study of potential modifications to the existing Federal navigation project for Belfast Harbor. Your letter raises the need for dredging of additional navigational access features and breakwater protection.

As members of my staff have discussed with you, an initial site visit has been scheduled for May 24, 1994. The principal purpose of this visit will be to determine what the city and the other users of the harbor, particularly commercial users, view as the potential economic benefits of the proposed improvements.

Following a preliminary assessment of the economic benefit of such improvements, a decision on whether or not to conduct a reconnaissance investigation would be made.

If you have any questions concerning this study effort, the study manager, Mr. Mark Habel, can be reached at (617) 647-8550.

Sincerely

A handwritten signature in black ink, reading "Brink P. Miller", is positioned above the typed name.

Brink P. Miller
Colonel, Corps of Engineers
Division Engineer

COMMITTEES:

FOREIGN AFFAIRS

BUDGET COMMITTEE

WASHINGTON OFFICE:

2268 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-1902
(202) 225-6306

OLYMPIA J. SNOWE

2D DISTRICT, MAINE

Congress of the United States
House of Representatives
Washington, DC 20515-1902

April 5, 1994

DISTRICT OFFICES:

●
ONE CUMBERLAND PLACE
SUITE 306
BANGOR, ME 04401-5000
(207) 945-0432

●
TWO GREAT FALLS PLAZA
SUITE 7B
AUBURN, ME 04210-5813
(207) 786-2451

●
169 ACADEMY ST.
PRESQUE ISLE, ME 04769-3166
(207) 764-5124

Colonel Brink P. Miller
Division Engineer
U.S Army Corps of Engineers
424 Trapelo Road
Waltham, MA 02254-9149

Dear Colonel Miller:

The City of Belfast, Maine, has asked the Corps to perform a reconnaissance report of navigational improvement alternatives at Belfast Harbor. I am writing to express my support for Belfast's request.

Usage of Belfast Harbor has increased substantially over the last decade to the point that harbor capacity limits have been exceeded. Belfast Harbor plays a major role in the City's economy and contributes greatly to its quality of life. Fishing vessels, barges, tow boats, cruise ships, and sailboats use the harbor, and during the summer months, congestion is a serious problem.

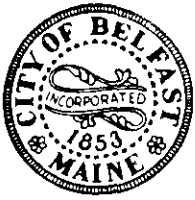
Belfast believes that harbor capacity can be safely increased if appropriate navigational improvements are implemented. Thus, the City has requested a reconnaissance report from the Corps to help identify alternatives. In particular, Belfast would like to explore the feasibility of a floating breakwater which would allow for increased mooring density and reduced congestion while minimizing environmental impact. The City is also interested in studying several channel improvements.

Resolving the harbor crowding and congestion problem is important to the future of Belfast. A reconnaissance report will mark the first step in dealing with this problem. I urge your support for the City of Belfast's request for assistance.

Thank you for your attention to this matter.

Sincerely,


OLYMPIA J. SNOWE
Member of Congress
2nd District, Maine



CITY OF BELFAST, MAINE 04915

City Manager's Office
71 Church Street
Belfast, Maine 04915
(207) 338-3370

March 2, 1994

Brink P. Miller
Colonel, Division Engineer
U.S. Army Corps of Engineers
New England Division
424 Trapelo Road
Waltham, Ma. 02254-9149

SPM
Subject: Request for Reconnaissance Report, February 23, 1994,
navigational improvements to Belfast Harbor.

Dear Colonel Miller:

This letter is to seek the assistance of the U.S. Army Corps of Engineers under Section 107 of the 1960 Rivers and Harbors Act, as amended, in implementing navigational improvements in Belfast Harbor in the vicinity of the City of Belfast, Waldo County, Maine.

Brief description of navigational problem and need:

Belfast Harbor's physical characteristics limit its capacity to support multi-use activity, specifically, safe navigation/port access by commercial traffic. An acceleration of the rate of increase of Belfast Harbor usage has occurred since the late 1980's. Existing conditions clearly indicate that capacity limits under mixed usage assumptions have been exceeded, placing commercial activity/jobs at risks. The situation warrants a study of navigational improvement alternatives to be followed by an improvement program appropriate to both existing and long term harbor usage projections.

Estimate of Harbor Usage 1994

-Mooring approximately 300 (from approximately 30 in 1982)
-Commercial service/repair facility, approximately 200 crafts
-Cruise/taxi operators 3, 5c.
-Tow Boats (2000hp class) 3
-Purse Seiner/Sardine Carrier, 1-2/day in season, Cannery employing 180.
-Commercial Craft approximately 30.

U.S. Corps of Engineers
Colonel Brink Miller
March 2, 1994
Page Two

Improvements alternatives we suggest be considered include:

- *Channel improvements-addition and expansion
- *Installation of short period wave attenuation structures with a secondary passenger handling function.

This past December, a member of our Ad Hoc Waterfront Committee informally inspected a highly creative and successful project completed by the Seattle District in the mid 1980's the "Friday Harbor Washington Floating Breakwater" (reference Port of Friday Harbor, Waterfront and Marina, Fax dated 24 January 1994). At that Division's suggestion, this request for a reconnaissance report has been submitted to your division as the first step in a potential navigational improvement program for Belfast Harbor (reference the attached 1, February, 1994 Seattle District letter).

The constraints imposed on Belfast Harbor usage by short period wave action have been understood for a long time. Various wave attenuation devices with shore ends near Patterson Point and south of Commercial Street have been suggested as navigational improvements for the past one hundred (100) years. Considerable differences in conditions exist between Belfast and Friday Harbor. However, the floating breakwater approach, if feasible at Belfast, could protect the harbor against short period chop with minimal environmental impact. Resulting benefits would be safely increased mooring density and reduced channel congestion. A secondary passenger handling function of the proposed breakwater could reduce navigational demands inside this point.

A brief description of channel improvement candidates include: main channel navigation to Stinson Cannery, also channel access to the following: city-owned RR property (Coal Wharf), segments of the "foot bridge", the east side (oil barge pier), and the west side (Holmes, Haddock and steamboat pier).

A location for dredged material is suggest south of the City landing breakwater behind a suitably improved retaining wall.

There are no known issues affecting the acceptability of any recommended solutions.

U.S. Corps of Engineers
Colonel, Division Engineers
March 2, 1994
Page Three

Please contact the undersigned at (207) 338-3370 for further coordination.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Arlo L. Redman, III', with a horizontal line underneath.

Arlo L. Redman, III
City Manager

ALR:hb

attachments:

1. Map annotated 24 February 1994
2. Seattle District, U.S. Army Corps of Engineers, 1, February 1994 to Mr. Larry Gleeson
3. Port of Friday Harbor, waterfront and Marina, Fax dated 24, January, 1994 Source: Port of Friday Harbor

cc: Senator William S. Cohen
Senator George J. Mitchell
Congresswoman Olympia J. Snowe



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
SEATTLE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 3755
SEATTLE, WASHINGTON 98124-2255

FEB 1 1994

Design Branch

Mr. Larry Gleeson
AD Hoc Harbor Committee
24 Church Street
Belfast Maine 04915

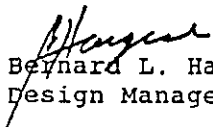
Dear Mr. Larry Gleeson

As you requested I am transmitting the Friday Harbor Washington Floating Breakwater construction drawings and two photographs showing the constructed structure.

The conditions you described at Belfast Maine are considerable different than those at Friday Harbor Washington. These drawings should be used for information only. I suggest you contact North Atlantic Division, Corps of Engineers. They could do a reconnaissance report to ascertain the best type of structure to protect the harbor along with probable cost and benefits. The federal government may be able to contribute design and construction services if the report results are positive.

If you have questions, please contact me at telephone 206-764-6839 or the Friday Harbor breakwater designer, Mr. Eric Nelson, 206-764-3557.

Sincerely,


Bernard L. Hargrave, Jr., P.E.
Design Manager

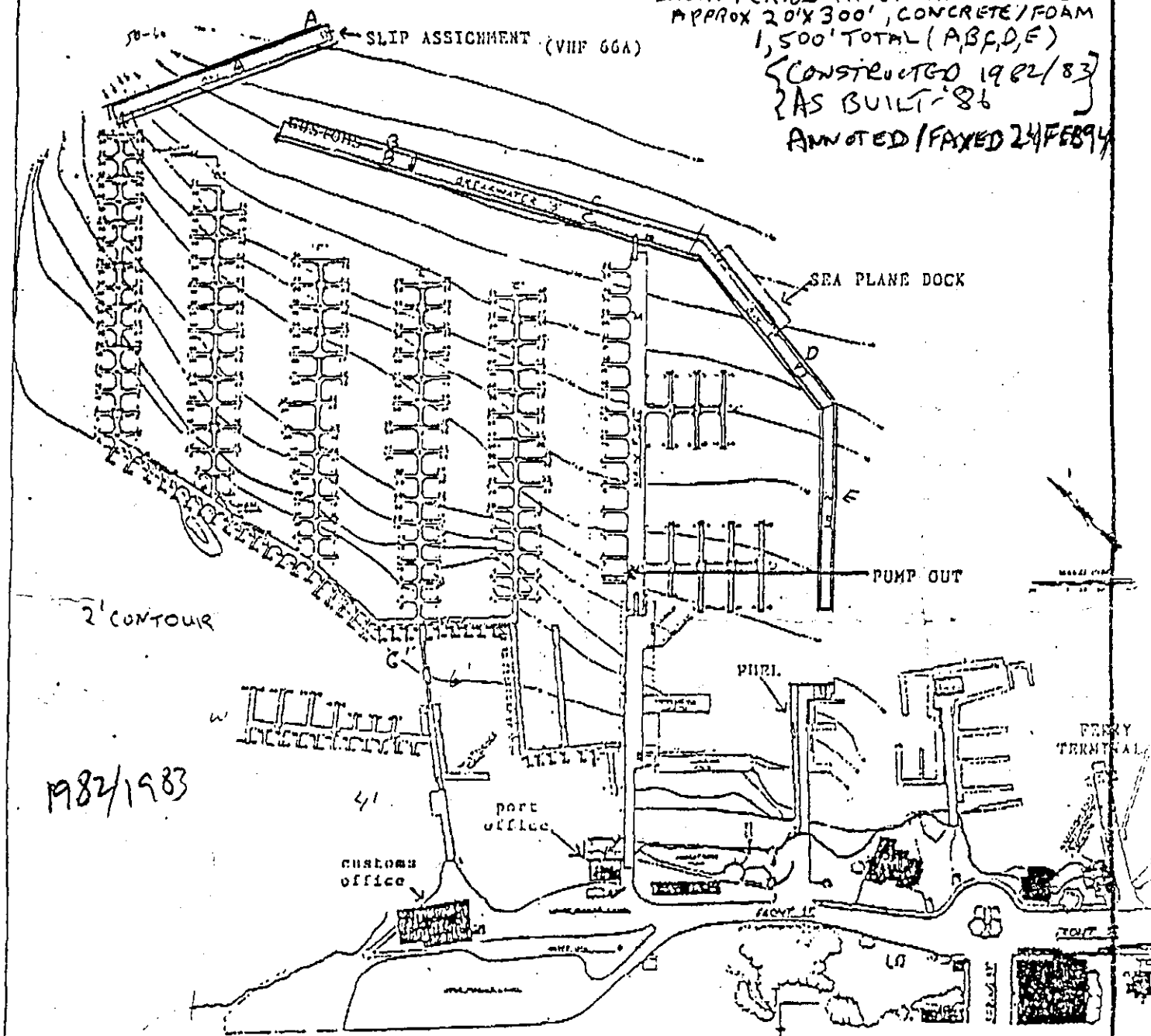
Enclosure

ATTACHMENT "2" TO CITY OF BELFAST 24 FEB 94
LETTER TO NEW ENGLAND DIVISION, U S ARMY CORPS
OF ENGINEERS:

TITLE: SEATTLE DISTRICT, U S ARMY CORPS OF
ENGINEERS 1 FEB 94 LETTER TO MR. LARRY GLEESON.

SHORT PERIOD ATTENUATION FLOATS
 APPROX 20'X300', CONCRETE/FOAM
 1,500' TOTAL (A,B,D,E)
 { CONSTRUCTED 1982/83
 } AS BUILT '86

ANNOTATED / FAXED 24 FEB 94



PORT OF FRIDAY HARBOR
 WATERFRONT AND MARINA
 (206) 378-2688

"PORT AUTHORITY"

PUBLIC REFERENCE
 CIRCA 1950 - TAXING AUTHORITY
 CASE PROJECT, SEATTLE

SOURCE: ED BARRET,
 HARBOR MASTER
 # 24 JAN 94 L.G. GLEESON/E. BARRET CONV.
 FAX

20-4 2057855102

ATTACHMENT "3" TO CITY OF BELFAST 24 FEB 94
 LETTER TO NEW ENGLAND DIVISION, U S ARMY
 CORPS OF ENGINEERS:

TITLE: PORT OF FRIDAY HARBOR, WATERFRONT AND
 MARINA, FAX DATED 24 JAN 94, SOURCE: PORT OF
 FRIDAY HARBOR.

